



Additional Chart Coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR 9 — CHART INFORMATION

SECTOR 9

TIERRA DEL FUEGO—CABO ESPIRITU SANTO TO CABO DE HORNO

Plan.—This sector describes the coastal waters of Tierra del Fuego that are fronted by the South Atlantic Ocean.

The description is from Cabo Espiritu Santo, the S point of the E entrance to Estrecho de Magallanes, SE to Cabo San Diego then SSW to Cabo Buen Suceso. From this position the coast trends WSW to Cabo San Pio.

The ports, off-lying islands, and channels are discussed in order of appearance with the coastal features.

General Remarks

9.1 Winds—Weather.—The prevailing winds of the South Atlantic Ocean are from the W. Generally speaking the velocity of the winds increases, through irregularly, toward the S. Between 50° and 55°S, the mean velocity is about 18 knots except toward the coast where it falls to 15 knots. The highest monthly velocities occur, for the most part, during colder season.

In coastal area from 50° to 55°S, W of 65°W, winds of Beaufort force 8 or higher, were reported on 7 percent of the observations for the year, and there is little change in expectancy from winter to summer.

South of Tierra del Fuego, however, in the historically stormy region about and to the S of Cape Horn (Cabo de Hornos), there is a sharp rise in gale occurrence.

Within the area 55° to 60°S, and 65° to 70°W, where nearly 70 percent of the winds are from the W, gales are recorded in 20 percent of the annual observations, with monthly percentages ranging from 30 in October and 11 in December and January.

Except in these two summer months, some 90 percent or more of the gale have a W component with about 25 percent of them from the W alone. Squalls are frequent, and severe gales from the E direction sometimes occur in connection with cyclones passing to the N.

South of Tierra del Fuego, in the area 55° to 60°S, and 65° to 70°W, 4 percent of the annual observations show fog, with a maximum of 5 percent in December and a minimum of 2 percent in May, June and August.

The E coast of Tierra del Fuego (Isla Grande de Tierra del Fuego) from Cabo Espiritu Santo to Cabo San Diego, 185 miles SE, forms a large area open to the NE.

There are few irregularities in the coastline except the Bahía de San Sebastian, about 37 miles SSE of Cabo Espiritu Santo. Proceeding S, yellow cliffs, backed by a few low mountain ranges, change gradually as signs of vegetation appear.

Numerous rivers and streams flow out from this coast, the most important being Rio Grande. The area S of Cabo Penas is wooded and the beaches give way to a rocky coastline backed by mountain ranges.

Along the coast of Tierra del Fuego from Cabo San Diego to Cabo Buen Suceso, then W to Cabo San Pio, about 39 miles distant, the coast is indented by several small bays.

There are several hills along the coast while the mountain ranges from NE of Cabo San Pio, about 10 miles, and extend W along the archipelago.

Isla de los Estados lies 22 miles offshore ENE of Cabo Buen Suceso, and the island group Islas Hermite lies 60 miles SSW of Cabo San Pio.

The winds in this sector are predominantly from the W with about 10 to 15 percent of the winds from the N and 6 to 10 percent from the S.

Generally speaking the mean velocity along the coastal area is 15 knots. The highest monthly velocities occur, for the most part, during the colder season, but the available observations show a variability as to the month of greatest force.

There is an average difference of about 6 knots between the highest and lowest mean monthly velocities. In the coastal waters the range is less than farther out at sea.

In Tierra del Fuego and adjacent islands, snow is rather frequent and small amounts may fall even in summer. At Punta Arenas the mean annual snowfall is 800mm, with an average maximum monthly fall of 120mm in July. At sea near the SE coast, and Cabo de Hornos, snow is rather frequent except in summer.

Tides—Currents.—The current passing S of Tierra del Fuego is known as the Cape Horn Current. From Isla Diego Ramirez, 60 miles SW of Cabo de Hornos, the current sets ENE toward Estrecho de le Maire. The Cape Horn Current passes finally into the Falkland Current.

The current between Cabo de Hornos and Isla de los Estados has been observed to exceed 22 miles per day.

Drifts of 8 or 9 miles a day are not uncommon while occasionally a set with a W component is encountered.

Caution.—Ice in the form of bergs and floes is to be found throughout the year in the S part of the South Atlantic Ocean. It is impossible to give any distinct idea of where ice may be expected.

It frequently happens that one or more years may elapse during which the route around Cabo de Hornos will apparently be free from ice.

No rule can be laid down to insure safe navigation, as the position of the ice and the quantity met with, differs so greatly in different seasons. Vigilance is urged when crossing the iceberg region.

Northeast Coast of Tierra del Fuego

9.2 From Cabo Espiritu Santo the coast trends SSE 22 miles to **Cabo Nombre** (52°48'S., 68°17'W.), and is composed of cliffs about 30 to 90m high, with but few breaks.

Inland the land is irregularly rounded and has no trees, and except for it being more green, resembles the coast N of Estrecho de Magallanes.

A radio tower, 100m high, stands about 11 miles SSE of Cabo Espiritu Santo.

Anchorage.—Vessels are not to anchor in an area N of Cabo Nombro. This area is bounded by the following points:

- a. 52°50.5'S, 68°25.0'W.
- b. 52°55.7'S, 68°19.0'W.
- c. 52°50.7'S, 68°06.6'W.
- d. 52°45.4'S, 68°12.4'W.

Inside the area there are oil rigs, an oil pipeline installation, and a buoy used to load vessels.

To the N and to the S of the prohibited anchorage area, good anchorage can be found in depths of 10 and 20m, respectively.

The bottom consists of silt and clay and both anchorages are protected from winds from the NW to SW passing through W.

Cabo Nombro is the end of a range of hills. From this cape to Cabo San Sebastian, 22 miles S, the land is low. A tower (oil derrick) is located 1.5 miles W of Cabo Nombro. The inshore coast between Cabo Espiritu Santo and Cabo Nombro is inadequately surveyed.

From Cabo Nombro a narrow shingle ridge, 3m high, extends 12 miles SSE, ending in **Punta de Arenas** (53°09'S., 68°13'W.). This point, the N entrance to Bahia de San Sebastian, is steep-to and free of dangers.

A light shown from a metal framework tower, 17m high, is situated close N of Punta de Arenas.

Caution.—Shoals, with depths of 12.5 and 8.7m, lie, respectively, 12.5 miles SE of Cabo Espiritu Santo and 6.5 miles NNE of Punta Arenas. Both shoals lie about 1.5 miles offshore.

Two shoals, each with a depth of 8.5m, lie 3 miles and 6.5 miles NNE, respectively, of Cabo Nombro.

Another shoal with a depth of 8.5m, lies 7 miles NE from the light on Punta de Arenas. A patch of kelp is found 18 miles SE of the light.

9.3 Bahia de San Sebastian (53°14'S., 68°15'W.) is entered between Punta de Arenas and **Cabo San Sebastian** (53°20'S., 68°10'W.), situated 11 miles S. The bay is sheltered from all except E winds, which seldom blow with any force.

Cabo San Sebastian is a bold and cliffy headland 60m high, and dark in color. A range of mountains 13 miles W of the cape rises to a height of 290m. A light is shown from a circular concrete tower 11m in height, situated on the cape. A mast, painted with red and white bands, and 100m high, lies 4 miles W of Cabo San Sebastian.

The N side of the bay is clear of dangers, but on the S side, a stony bank, with depths of less than 5.5m for the first 4 miles, and of less than 9.1m over the remainder, extends 11 miles NNE from Cabo San Sebastian. There is no kelp on this bank, which is fairly steep-to on its W side.

Tides—Currents.—The spring range of tide in Bahia de San Sebastian is 8.5m and the mean range is 7m. The ebb tide flows from the bay with a velocity of 2 knots, and tide rips form over the bank extending NNE from Cabo San Sebastian.

Depths—Limitations.—Two submarine pipelines extend about 1.5 miles N from the S shore of the bay.

The E berth (No. 2) is near the intersection of Ranges No. 4 and No. 6, accommodates tankers up to 40,000 dwt and 15.5m draft; the W berth (No. 1) is near the intersection of Ranges No. 1 and No. 3 and can accommodate tankers up to 20,000 dwt and 9.7m draft.

An oil terminal with several tanks is located on the shore of the pipeline. An antenna, 100m high, painted with red and white stripes, stands near the tanks.

Aspect.—Range No. 4, consisting of beacons in line bearing 250°, is situated about 8 miles W of the light on Cabo San Sebastian.

The front range light of Range No. 1 is situated 0.8 mile ESE of Range No. 4 front beacon. The lights are in line bearing 238.5°.

There are four other lighted range beacons with a common rear range light situated 1.75 miles WNW from Cabo San Sebastian light. From E to W they are Range No. 5, in line bearing 161°; Range No. 6, in line bearing 155°; Range No. 2, in line bearing 121°; and Range No. 3, in line bearing 126°.

Pilotage.—Pilotage is compulsory for all foreign vessels berthing at San Sebastian.

Anchorage.—Anchorage may be taken in a depth of 10.4m, at the intersection of ranges No. 1 and No. 2.

Directions.—Vessels should remain at least 10 miles offshore when approaching Bahia de San Sebastian, until the light on Punta Arenas bears 258°; this course should then be steered with the light structure directly ahead.

When the light structure on Cabo San Sebastian bears 189°, a course of 201° should be steered until Range No. 4 can be headed for on a bearing of 250°.

Caution.—Caution should be exercised not to get S of the 250° range line when approaching the inner berth because the depths shoal rapidly.

9.4 Between Cabo San Sebastian and a small cliff 5 miles SSE, the coast is low.

Foul ground, with rocks awash at its outer end, extends 2 miles seaward from this cliff.

From this cliff to **Cabo Domingo** (53°41'S., 67°51'W.) 19 miles farther SSE, the coast is low, but hilly inland, and fronted by a sand beach.

Cabo Domingo is a prominent, sheer headland of reddish color, 80m high.

A reef which dries, extends 0.5 mile off the cape, and extends 25 miles SSE.



Cabo Domingo Light

A shoal, whose position is doubtful, lies 5 miles ESE of Cabo Domingo.

Caleta La Mision, about 1.2 miles SE of Cabo Domingo, is formed by a bight in the reef. It is sheltered from S and SW winds. Two range lights, which are lit on request, are shown at the head of the bight, in range 211°.

La Mision, about 3 miles SSE, may be identified by a prominent white church and a conspicuous cross.

Anchorage may be taken on this range with the prominent white cross at La Mision (Mission) bearing 166°, and the light on Cabo Domingo bearing 278°, in a depth of 10m, mud.

A shoal with a depth of about 4.6m lies close E of this anchorage. A stranded wreck lies on the range about 0.3 mile from the shore.

9.5 Rio Grande (53°47'S., 67°41'W.) ([World Port Index No. 13970](#)), 9 miles SE of Cabo Domingo, divides the pampas region from the wooded region S. The E side of the entrance is a stony peninsula ending in Punta Popper.

Puerto Rio Grande is situated 2 miles within the river's entrance. There was a least reported depth of 0.3m on the range lines, and a least width of 91m as far as the port.

The port is available for vessels with local knowledge, having a draft not exceeding 3.7m, which can be increased to 4.3m at springs, but should only be entered during the last hour of the rising tides. It was reported that, the port was closed to commercial traffic.

The mean range of tide in the river is 5.9m. The tidal currents in the river run at a rate of 3 to 6 knots.

Pilotage is reported to be compulsory. Anchorage can be taken in a depth of 16m, mud, 2.5 miles NE of Punta Popper, with the front beacon of the outer range bearing 259°, and Cabo Penas light bearing 155°.

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9.6 Cabo Penas (53°50'S., 67°33'W.), 5.5 miles SE of Rio Grande, is 30m high.

The sea nearly always breaks over the rocks which extend 2 miles E of the cape. The cape should be given a wide berth, especially at night and in bad weather, as soundings give no indications of its proximity.

A light, shown from a pyramidal iron framework structure 13m high, is situated on Cabo Penas.



Cabo Penas Light

Cabo Santa Ines (54°07'S., 67°09'W.) lies 21 miles SE of Cabo Penas. The hills in the vicinity of Cabo Penas are high and partially wooded.

A radio tower, 65m high, stands about 9 miles SW of Cabo Penas.

Roca Comodoro, a rock awash, 7 miles SE of Cabo Penas and 3 miles offshore, has no kelp, and should be given a wide berth.

A dangerous submerged wreck is reported in the vicinity of the rock.

From Cabo Santa Ines to Cabo San Pablo, 17 miles SE, the coast is high and bold, and is fronted by cliffs 60 to 90m high.

Roca Champion, with a depth of 2.4m, and steep-to on its seaward side, lies 1 mile offshore, 5.5 miles NW of Cabo San Pablo.

Cabo San Pablo (54°17'S., 66°44'W.) is an isolated hill that protrudes from the line of the coast. Its rounded form makes it conspicuous. A light is shown from the summit of the hill.

On the E coast of the cape is a sunken wreck.

From Cabo San Pablo to Cabo San Diego, the E extremity of Tierra del Fuego, 61 miles ESE, the coast is lower.

The depths off the coast are moderate, affording anchorage during W and S gales.

Cabo Campo del Medio, 30m high, lies 11.5 miles SE of Cabo San Pablo.

Meseta de Orozco, a distinctive table-topped hill, rises to a height of 250m, 23 miles SE of Cabo Campo del Medio.

Tres Hermanos, three hills, that from W to E are 380, 510, and 420m high, respectively. They are situated 19 miles E of Meseta de Orozco. The W hill of this group is similar to Meseta de Orozco. They form an excellent landmark for vessels proceeding to Estrecho de le Maire.

9.7 Cabo San Vicente (54°37'S., 65°15'W.), situated 5 miles WNW of Cabo San Diego, is a low, dark gray point, backed by wooded hills 60 to 90m high.

Rocks and foul ground, marked by kelp, extend 0.5 mile from the cape.

Bahia Thetis is located on the E side of Cabo San Vicente, and might be useful as a temporary anchorage for vessels bound through Estrecho de le Maire; it is a safe refuge during strong winds from between S and W.

The tidal currents, with rates of 1 to 3 knots, set strongly across the entrance. When the wind opposes or crosses the tidal stream, a great sea rolls into the bay.

Two beacons in line 252.5° lead to an anchorage in Bahia Thetis.

Temporary anchorage may be obtained, with good holding ground, on the range line, 0.75 mile from the front range, in a depth of 11m, sand and mud.

Bad holding ground composed of stone is to be found off the range line.

Two shoals, with a depth of 4.9 and 4.3m, lie 183m S of the range line, 1.25 miles and 0.9 mile, respectively, E of the front range beacon.

9.8 Cabo San Diego (54°39'S., 65°07'W.) ends in a small sandy promontory, which rises to a height of 134m, nearly 2 miles W. A reef extends about 0.2 mile E of the cape.

A light shown from a prominent white square concrete framework structure 13m high, is situated on the cape.

Meseta de Orozco and Tres Hermanos are easily seen terrain reliefs when navigating in sight of the coast.

A heavy and dangerous tidal race, with irregular depths in the middle, extends 5 or 6 miles off Cabo San Diego.

At times this race reaches a rate of 8 to 10 knots near the coast. Vessels are warned to give the cape a berth of at least 6 miles.



Cabo San Diego Light

Estrecho de le Maire

9.9 Estrecho de le Maire, which is 16 miles wide, separates Isla de los Estados from the E side of Tierra del Fuego.

The W side of the strait extends from Cabo San Diego to Cabo Buen Suceso, about 20 miles SSW.

The depths through the central part of the channel are between 55 and 183m; however, a rock with a depth of 4.6m, whose position is doubtful, lies 1.5 miles SE of Cabo San Diego Light.

Tides—Currents.—On the axis of the strait the maximum flood current sets N and the ebb current sets S, at 3 knots, but may attain 3.5 knots at springs.

Tidal currents in the strait are regular, but occasionally set in a direction other than expected, especially on the ebb. This would seem to be caused by continuous E and SE winds.

It is recommended that vessels entering the strait from N should wait until 1 hour after HW to avoid the heavy race and foul tidal current.

In addition to the heavy tide rips off Cabo San Diego, heavy tide rips are found off the W coast of Isla de los Estados.

In the approaches to Estrecho de le Maire from the N, Estados island will be difficult to see in reduced visibility and determining position by soundings may provide no aid. Under such conditions radar returns from the peaks of Cape Antonio and Cape Galeano (54°47'.S., 64°41.5'.W.) are easily recognized on the screen. Visual recognition of Cape San Diego is also difficult during poor visibility, because of the low coastal stretch, and that also may easily cause a misleading identity for Cape San Vicente. In 1989, it was reported, that Cape San Diego Lighthouse was not visible until it bore W at 10 miles distant.

Caleta San Mauricio (54°45'.S., 65°13'.W.) is situated 6 miles SSW of Cabo San Diego.

Anchorage may be obtained with the center of the beach bearing 270°, 0.75 mile distant, in 20m, where there is shelter from SW winds, or vessels can anchor farther out in 27m.

The first anchorage leaves little room to maneuver, and the outer anchorage is uncomfortable.

9.10 Bahia Buen Suceso (54°48'.S., 65°13'.W.) is a small bay entered about 3 miles SSW of Caleta San Mauricio.

The entrance is easy to recognize by the deep canyon, formed in the coast, and by the surrounding mountains which rise to an elevation of 360m, and are the highest in the area.

Unless covered with snow, the mountains appear bare and black.

Good anchorage may be taken in 15m, fine sand, 0.85 mile from the head of the bay. Vessels should not anchor farther in as a heavy swell with dangerous rollers run in during SE gales.

Squalls are frequent during strong winds and are violent during W gales.

A light structure, that is difficult to see by day, is situated on the S entrance point of Bahia Buen Suceso. Another light is shown from the center of the shore at the head of the bay.

Ensenada Patagones lies midway between Bahia Buen Suceso and Cabo Buen Suceso. It affords a good anchorage, during offshore winds, in 26m, with Islote Veleros bearing 199°, and the center of the small sandy beach at the head of the bay bearing 282°.

Cabo Buen Suceso (54°56'.S., 65°24'.W.) is high and steep. Rocks which dry lie close off the cape.

Islote Veleros, a rocky islet which resembles a boat under sail, is situated about 0.5 mile offshore, 2 miles NE of the cape.

Isla de los Estados

9.11 Isla de los Estados (54°50'.S., 64°15'.W.), off the SE extremity of Tierra del Fuego, is 34 miles long in an E to W direction and about 9 miles wide; the island is deeply indented by bays. It is mountainous, and its peaked summits, rising to a height of 823m, are covered with snow throughout most of the year. The harbors are a continuation of the valleys, and are surrounded by high land, with the water in them deepening toward the center.

The coast of the island consists of rocky cliffs, varying in height from 61 to 152m.

The best harbors are on the N side of the island. All the anchorages, though well-protected, are difficult to enter due to the force of the tidal currents setting across the mouths of the inlets, the great depth of water, and the inconstant wind, which finds its way down the ravines of the mountains from various directions.

The W coast of the island from **Cabo San Antonio** (54°43'.S., 64°33'.W.) to Cabo San Bartolome, 12.5 miles SW, forms the E shore of Estrecho de le Maire. It is high, rugged, and deeply indented by the Bahia Flinders, Bahia Crossley, and Bahia Franklin.

These bays are open to the prevailing winds, afford little protection from the sea, and are not recommended.

The N tidal current has rates of 5 to 7 knots. Heavy tide rips occur off Cabo San Antonio and off the W coast of the island to Cabo San Bartolome.

9.12 Bahia Flinders (54°45'S., 64°35'W.) is entered between Cabo San Antonio, 150m high, and Cabo Beaulieu, 4.5 miles SW; it recedes about 3 miles.

The bay is fronted by cliffs, except in the SE corner, and the ground rises sharply behind the cliffs. Monte Spegazzini, 741m high, is situated 2 miles SE of the head of the bay.

Islote Tripode lies in the S corner of the bay; a beacon 12m high is situated on the island. Two rocky patches with least depths of 9.4 and 10.1m, marked by kelp, lie midway between Cabo San Antonio and Cabo Beaulieu.

A large patch of kelp extends about 1 mile N from Punta Rollheiser, at the head of the bay, about 1.5 miles NE of Islote Tripode. There are general depths of 18 to 46m in the bay.

Anchorage may be taken in 44m, fine sand, with the beacon on Islote Tripode bearing 158°, 0.7 mile distant.

Bahia Crossley is entered between **Cabo Galeano** (54°47'S., 64°42'W.), 144m high, located 1.75 miles W of Cabo Beaulieu, and Cabo Le Maire, 0.8 mile SW.

A light, which is difficult to see, is shown from an iron structure 3m high, situated on an islet about 0.1 mile N of Cabo Le Maire.

Anchorage in Bahia Crossley can be obtained by small vessels with local knowledge, about 0.2 and 0.4 mile SE of the light. Entry into the bay is not difficult, but under certain conditions of sea, wind and tide, small but fierce tide rips form in the entrance.

9.13 Punta Cuchillo (54°50'S., 64°46'W.), the W extremity of Isla de los Estados, lies 3 miles SSW from Cabo Le Maire.

Islote Los Tres Garcia (54°50'S., 64°47'W.), with above-water rocks close SW and SE of it, lies 0.8 mile W of Punta Cuchillo.

Bahia Franklin lies between Cabo Sur and **Cabo San Bartolome** (54°55'S., 64°42'W.), 60m high, the SW extremity of the island, 4 miles SSE. Cabo Setabense is a hilly peninsula which separates Bahias Crossley and Franklin.

A rock, whose position is doubtful, lies 4 miles SSW from Cabo San Bartolome, and dangerous rocks are charted 1 and 1.5 miles SSE from the same cape.

From Cabo San Bartolome the coast trends ENE 33 miles to Cabo San Juan, the NE extremity of the island. It is indented by numerous bays and inlets. Tide rips are found S of Cabo San Bartolome and E of Cabo San Juan.

Islotes 350 Pies (54°55'S., 64°37'W.) lie 3 miles E of Cabo San Bartolome, from 0.5 to 1 mile offshore. The islets and rocks are steep-to. The largest is 107m high.

A rock, awash and marked by breakers, lies about 0.5 mile S of the islets. A 16m patch lies 2.5 miles E of the islets.

9.14 Bahia Capitan Canepa (Bahia Canepa) (54°52'S., 64°30'W.) is entered 4 miles NE of Islotes 350 Pies, and **Cabo Kempe** (54°52'S., 64°22'W.) is situated 2 miles farther NE.

There are a number of small islets lying close offshore along this coast.

A local magnetic anomaly is reported to exist in the bay.

Punta Menzies is situated 4 miles NE from Cabo Kempe. Bahia York is entered between Punta Menzies and Cabo Webster, 5 miles ESE. Islas Menzies, a group of islets, lie 1 mile SE of Punta Menzies. There are two above-water rocks 0.7 mile S of this point.

A rocky shoal, with a depth of 4.6m, lies 0.25 mile E of Islas Menzies.

In the middle of Bahia York, 2.75 miles NW of Cabo Webster, there are some above-water rocks. Near the E shore of the bay stands a rock 61m high.

Puerto Celular, a cove in the NW corner of Bahia York, affords anchorage for vessels up to 800 grt in 29m, sand.

There are no dangers in the fairway, and it is sheltered from S and SW winds, but a heavy swell enters with SE winds.

Between Cabo Webster and **Cabo Kendall** (54°40'S., 64°07'W.), 4 miles ENE, there are three small bays, open to the S.

Islas Dampier, from 150 to 245m high, lie 2 miles SE and E of Cabo Webster. The coasts of the islets are sheer and free from dangers.

9.15 Puerto Vancouver (54°48'S., 64°04'W.) is entered between Punta Rinoceronte, 2 miles NE of Cabo Kendall, and Punta Gilbert, 1.5 miles farther E. In the W arm of the bay a vessel not longer than 60m may anchor in 24 to 27m, sand.

A reef extends some distance from the S entrance point of the W arm. To avoid this reef a vessel should not alter course for the anchorage until a prominent white ravine, on the S shore of the W arm, is visible.

Bahia Blossom (54°47'S., 64°00'W.), entered between Punta Gilbert and Punta Ventana, 2.75 miles ESE, recedes about 3 miles. Puerto Back is situated 2.5 miles NE of Punta Ventana.

Punta Fallows (54°47'S., 63°51'W.), the SE extremity of Isla de los Estados, is situated 1.25 miles E of Puerto Back. The point is easily distinguished by its round shape with a nipple on top.

9.16 Cabo San Juan (54°43'S., 63°48'W.), the NE extremity of the island, is situated 4.25 miles NNE of Punta Fallows. The cape is high and steep.

Isla San Juan, 183m N of Cabo San Juan, is covered with guano and visible at a distance of about 10 miles.

Caution.—Off Cabo San Juan a heavy tide rip extends for a distance of 5 or 6 miles or more to seaward. When the wind is strong and opposed to the tidal current the overfalls are overwhelming and dangerous; they have been reported to extend 18 miles E of the island. Mariners must use every precaution to avoid this area.

The N coast is described from Cabo San Juan W to Cabo San Antonio, 25 miles distant. This coast is much indented, with few off-lying rocks or islands.

Puerto San Juan del Salvamento is approached between Cabo San Juan and Cabo Furneaux, 2 miles W. It may be easily identified from a distance by Monte Richardson, 678m high, situated at the head of the inlet.

When nearing the entrance, Barranca Paleta, a remarkable cliff like a painter's palette, is visible on the E shore, which is high and steep. This cliff is formed by the slope of a small mountain, 260m high.

The entrance to the inlet is E of **Punta Lasserre** (54°43'S., 63°51'W.), about 1 mile SE of Cabo Furneaux.

Here the inlet is 0.25 mile wide and deep in the fairway, but near the head of the inlet depths decrease gradually to the beach.

The shores are bold and fringed with kelp giving an indication of a shallow bank, mostly near the shore. There is a submerged rock a short distance off Punta Lasserre.

A vessel can anchor within the line joining Cabo Furneaux and Cabo San Juan in 36 to 55m. A small bay close S of Punta Lasserre affords anchorage in 18m. A more sheltered berth is 2 miles within the entrance in 30m; a rock, covering 11m, is located about 0.1 mile W of this anchorage.

Vessels entering this inlet should steer a mid-channel course to the anchorage.

Tidal currents run strongly across the entrance to the inlet but within the line joining Cabo San Juan and Cabo Furneaux they are weaker.

9.17 Puerto Cook (54°45'S., 64°02'W.) is situated 5 miles W of Cabo Furneaux. Caleta Cinco de Ene and Caleta San Luis indent this coast. Puerto Cook is entered between Punta Pickersgill and Punta Bayly, 1.5 miles WSW.

Islote Pleamar, light-colored, has no vegetation. It lies close off the E shore of the inlet, 0.6 mile SSE of Punta Bayly. This islet restricts the inlet to a width of about 0.1 mile.

Two rocks, awash and marked by kelp, lie 0.6 mile W and 0.5 mile SW of Punta Pickersgill.

Puerto Ano Nuevo is situated 2.5 miles W of Puerto Cook and Puerto Basil Hall is situated 2.75 miles farther W. Cabo Cooper is the N extremity of a peninsula that separates these two inlets.

Islas Ano Nuevo, consisting of five islands, lies from 2 to 4 miles offshore, NW to N of Cabo Cooper. They afford some protection from W winds. The S island of the group is joined to Isla de los Estados, 4 miles W of Cabo Cooper, by kelp and foul ground.

Puerto Cook is considered the best harbor in the island for a vessel seeking anchorage. The recommended anchorage is at the head of the inlet in 22 to 27m sand. There is a depth of 8.5m about 0.2 mile SSW of Islote Pleamar.

9.18 Isla Observatorio (54°40'S., 64°08'W.), about 61m high, is similar in appearance to the land near Cabo San Juan.

A light, shown from a circular iron tower 23m high, is situated on the island. A beacon is situated about 0.1 mile E of the light structure.

Anchorage may be taken in the lee of the island in a depth of 14.6m, sand, with the light and beacon in range bearing 280.5°, about 0.3 mile offshore. Because of the velocity of the tidal currents, the uncertainty of the eddies, it is advised not to use this berth except in cases of necessity.

Bahia Colnett lies between the foul ground which joins the SW Islas Ano Nuevo to Isla de los Estados, and **Cabo Colnett** (54°43'S., 64°21'W.). This bay should be avoided.

Bahia San Antonio is entered between Cabo Colnett and Cabo San Antonio, 7 miles W. Puerto Parry and Puerto Hoppner lie at the head of the bay on its E side.

Anchorage may be obtained in the SW corner of Bahia San Antonio, in depths of 15 to 27m, over a bottom of sand and

pebbles, sheltered from S and W winds, but N winds bring in a heavy sea.

Tierra del Fuego—South Coast

9.19 Cabo San Pio (55°03'S., 66°32'W.) is situated 39 miles WSW of Cabo Buen Suceso. The intervening coast is indented by three principal bays. There are mountain peaks close inland.

The 200m curve lies about 4 to 5 miles offshore to Punta Kinnaird, 20 miles W of Cabo Buen Suceso, then falls off quickly to the S.

Bajo Loyola, with a least depth of 36.6m, lies 7.5 miles SSE of Cabo Buen Suceso, but its position is approximate only; it rises abruptly from depths of over 183m.

9.20 Between Cabo Buen Suceso and **Cabo Hall** (54°58'S., 65°43'W.), 11 miles W, the coast is high and cliffy. It is fringed with rocks, some of which dry. Cabo Hall is fringed with a reef.

Up to a distance of 1 mile or more, E of Cabo Buen Suceso, the bottom is irregular with depths of less than 18.3m, and there are probably underwater rocks in this area.

It is therefore imprudent to close the cape to less than 2 miles, and should it be necessary to approach more closely, this should be done from the S, but never to within 1 mile. A current runs E at a rate of 3 knots.

Monte Campana, 800m high, is situated 4.75 miles NE of Cabo Hall. It resembles a large bell and is prominent. This mountain is often the last remarkable object visible before weather thickens preceding a storm.

Bahia Aguirre is entered between Cabo Hall and Punta Kinnaird, 9 miles W, a small peninsula forming the SE extremity of Cabo San Gonzalo.

Rocks, which dry, lie up to 0.6 mile S of Punta Kinnaird, and there is a below-water rock 0.3 mile ENE of the point.

Bahia Valentin, on the W side of Cabo Buen Suceso, affords anchorage in 20m, sand, in its NE corner, for vessels with local knowledge.

Puerto Espanol (54°55'S., 65°57'W.), the NW arm of Bahia Aguirre, is entered between Punta Pique, 2 miles N of Punta Kinnaird, and Punta de la Pena, 2 miles NE of Punta Pique.

Islote Elizalde, high, rugged, and dark colored, lies 0.5 mile SW of Punta de la Pena. Shoal ground extends 0.5 mile S, SE, and SW from the point enclosing the islet.

Breakers, extending up to 0.5 mile from the coast, have been observed between Punta de la Pena and Punta Colmillo 3 miles E, and were reported 1 mile W of Islote Elizalde.

There is good anchorage in 11m, fine sand, 1.25 miles W of Islote Elizalde; it is protected from all winds except those from NE to SSE. The light structures in the vicinity and Islote Elizalde, are good anchorage marks.

9.21 Bahia Sloggett (55°00'S., 66°18'W.) is entered E of Punta Jesse, situated 15 miles WSW of Punta Kinnaird. Punta Jesse is low, cliffy, and bordered by foul ground. It should be given a wide berth. The bay gives no shelter from winds between E and S and only very temporary anchorage with winds from other directions.

Islote San Martin de Tours is situated in the middle of Bahia Sloggett, 2.5 miles NE of Punta Jesse.

A submerged rock, marked by breakers and kelp, lies 1.75 miles SSE of the islet.

Monte Tres Picos, the most prominent summit in the area, rises to three flat peaks 6 miles NE of Punta Jesse.

From Punta Jesse the coast trends 2 miles WSW to Punta Falsa, and then 2.5 miles W to Cabo San Pio.

Cabo San Pio (55°03'S., 66°32'W.) is marked by a light shown from a conical stone beacon 7.9m high. A rock, awash, lies about 0.2 mile SE of Cabo San Pio light, and a breaker has been reported about 183m SE of the rock. Islote Blanco is situated 0.75 mile SW of Cabo San Pio. Uncharted shoals have been discovered between the islet and the cape.

Anchorage in 20m, sand and pebbles, can be taken about 0.4 mile S of the light structure. A sea is raised by SW winds.

Islas Nueva and Lennox

9.22 Isla Nueva (55°14'S., 63°32'W.) lies 7 miles S of Cabo San Pio. It extends 7 miles S, and is 8 miles long from E to W. It is hilly and wooded, and the summits are more apparent from the E than any other direction.

Cerro Orejas de Burro, 310m high, is situated in the NE extremity of the island. It is the only well defined summit and resembles the ears of a burro.

Punta Waller (55°10'S., 63°34'W.) is the N extremity of the island. Caleta Carlos, Caleta Pescado, and Caleta Orejas de Burro are small inlets that lie 0.75, 1.25, and 4 miles, respectively, E of Punta Waller.

Caleta Orejas de Burro can be identified by two islets which lie 183m off the entrance points. There is a prominent waterfall in the center of the beach on the SE side of the cove.

The E coast of Isla Nueva between Caleta Orejas de Burro and Cabo Graham, 5.5 miles SSW and marked by a light, affords no shelter.

Foul ground extends E from Punta Oriental, the E point of the island. It should be given a wide berth.

Anchorage may be obtained in the middle of the cove in 15m, sand, about 0.3 mile offshore.

Punta Fifty (Punta Cincuenta) (55°17'S., 66°38'W.), the SW extremity of the island, lies 4.5 miles W of Cabo Graham. A reef, which seldom breaks, extends some distance W of the point.

Punta Chihuau is situated 1 mile NNW of Punta Fifty. Isla Augusto (Isla Augustus) lies about 0.9 mile W of Punta Chihuau.

Anchorage may be obtained outside the kelp in a depth of 12m, with Punta Chihuau bearing 182°, distant 0.3 mile.

A shoal with 8.5m, marked by kelp, lies 2.25 miles NNW of Punta Fifty. A bank of kelp, 3 miles in extent, was reported to lie NW of Isla Augustus.

Punta Jorge (55°12'S., 66°39'W.), the NW extremity of Isla Nueva, lies 5 miles N of Punta Fifty. Kelp extends NW from this point to Cabo Maria, the SE extremity of Isla Picton, 7.5 miles distant.

A 6.4m shoal lies 4.25 miles NW of Punta Jorge.

9.23 Isla Lennox (55°17'S., 66°57'W.), about 6 miles W of Isla Nueva, is almost round in shape, and 7.5 miles across.

It is separated from Isla Nueva by Paso Richmond and from the SE end of Isla Navarino, 3.5 miles W, by Paso Goree. It is fronted on the N by Bahia Oglander (Paso Oglander).

This island, and others in the vicinity, can be approached with safety by taking soundings and keeping a lookout for kelp.

From **Punta Raquel** (55°13'S., 66°52'W.), the NE extremity of Isla Lennox, the coast trends S for about 8 miles to Cabo Carolina.

Isla Raquel lies 0.8 mile SE of Punta Raquel. Rocks marked by kelp exist in an area 0.5 mile E of the islet, which should be given a wide berth.

Isla Luff (Isla Gratil) lies 0.75 mile offshore, 5 miles SSE of Punta Raquel. The island is 123m high, and 1 mile long.

Kelp extends up to 1 mile off the S coast of Isla Lennox.

Punta Maria (Punta Mary), the SW extremity of Isla Lennox, lies 5 miles WNW of Cabo Carolina, and Punta Medio, the W extremity of the island, lies 3.75 miles N of Punta Maria.

Isla Medio lies about 1.7 miles WSW of Punta Medio.

Anchorage may be taken off Caleta Lennox, near the center of the E coast of Isla Lennox, in a depth of 15m and off Caleta Cutter, 2 miles SW of Isla Gratil, in a depth of 18m, sand.

Caution.—A 9.6m patch lies about midway between Punta Medio and Isla Medio.

A depth of 11.8m lies 1.5 miles S of Punta Maria.

9.24 Isla Terhalten (55°27'S., 67°03'W.) is a small, high island about 6 miles S of Isla Lennox, and Isla Sesambre, also high, lies 1 mile farther SE.

A reef marked by kelp lies 0.5 mile SE of Isla Sesambre, and there is another rock situated 0.5 mile farther S.

Islas Evout (55°34'S., 66°47'W.) lie from 10 to 11 miles SE of Isla Sesambre, in the middle of the E entrance to Bahia Nassau.

Islas Wollaston

9.25 The principal islands of this group are, from N to S, Grevy, Bayly, Wollaston, and Freycinet.

The group lies with **Cabo Ross** (55°34'S., 67°21'W.), the N extremity of Isla Wollaston, 17.5 miles SW of Isla Lennox.

The islands are all mountainous. Monte Hyde, 674m high, is situated in the SW part of Isla Wollaston.

The channels between these islands are narrow and mostly deep. All the known rocks in them are above-water, or thickly covered with kelp. There are deep passages N and W of this group.

Bahia Gretton is entered between **Punta Dillon** (55°30'S., 67°39'W.), the N extremity of Isla Grevy, and Cabo Ross, 11 miles ESE. It affords anchorage in convenient depths, but is exposed to N winds. A drying bank lies 1 mile WNW of Cabo de Ross.

Banco Banner, with a least depth of 3.3m, marked by kelp, lies 3.5 miles SE of Punta Dillon, 0.5 mile offshore.

Rocas Hazeltine, which have depths of 4.8 to 8m, lie 4 miles ENE of Punta Dillon.

9.26 Isla Daedalos (55°29'S., 67°37'W.) is the E islet of a group of islets extending 2 miles NE of Punta Dillon. Roca

Daedalos, with a depth of 0.9m steep-to and marked by kelp, lies 0.4 mile NE of Isla Daedalos.

Rada Norte, off the NE side of Isla Grevy, close SE of Punta Dillon, is a temporary anchorage, easy of access, with depths of 14 to 18m. It is sheltered from NW, but care is required to avoid Rocas Hazeltine.

Anchorage.—There is an anchorage at the head of Bahia Gretton, close W of the Islas Otter, in a depth of 25m. A depth of 5m is charted 0.5 mile W of the anchorage.

Cabo Coquille is the SW extremity of Isla Grevy. Bahia Beaufort lies between Cabo Coquille and Isla Bayly. It has not been examined. A depth of 12.5m, the charted position being approximate, lies 5.25 miles S of Cabo Coquille.

Canal Washington separates the W extremity of Isla Wollaston from Isla Bayly, and connects Bahia Gretton with Canal Franklin. The canal is narrow and not very deep.

9.27 Caleta Alsina (Bahia Alsina) (55°38'S., 67°20'W.), situated on the NE coast of Isla Wollaston, 4 miles SSE of Cabo Ross, has general depths of 16 to 18m.

Anchorage may be obtained in 20m, sand, where there are no known dangers; however, there is a line of kelp at the entrance to the bay.

Isla Freycinet, the SE island of the Islas Wollaston, attains an elevation of 335m and is separated from the SE extremity of Isla Wollaston by Canal Bravo.

Canal Bravo is narrow, and near its center there is a rock awash. In its SW entrance is a small conical islet which can be passed to the W.

Cabo Scourfield (55°47'S., 67°10'W.) is the E extremity of Isla Freycinet. Puerto Colon lies in Bahia Arquistade, 1.5 miles WSW of Cabo Scourfield. The harbor is spacious and well-sheltered from the prevailing winds.

Anchorage.—There is good anchorage in the middle in 30 to 45m, sand and shells.

Canal Franklin, which has only been cursorily surveyed, is the inner portion of the channel between Islas Wollaston and Islas Hermite to the S; its least width is 0.5 mile. It is entered from the E through Bahia Arquistade, which separates Isla Freycinet from Isla Deceit, 2.5 miles to the SE.

The W entrance to the canal is through Seno Franklin, which is entered between Cabo Coquille and Cabo West, the W extremity of Isla Hermite, 13 miles SSW.

Canal Franklin is apparently free of dangers, but there is a small islet charted 1.75 miles WSW of the W extremity of Isla Freycinet, and a shoal with a depth of 10.7m is charted 1.5 miles farther WNW.

A rock, awash, is charted 0.5 mile offshore, off the SW extremity of Isla Wollaston.

Islas Hermite

9.28 Islas Hermite consist of four principal islands and several smaller ones. The principal islands are Isla Deceit, Isla Herschel, Isla Hermite, and Isla Hornos, which lies 2 miles S of Isla Herschel.

The shores of the islands are bold and steep-to; the mountains are pointed, with steep ascents, and are thickly overgrown with shrubs and evergreen trees to about 91m of their summits.

Isla Hermite, the largest and farthest W, is 516m high, and rugged in the E part, but slopes toward Cabo West, which is low.

Isla Deceit is 441m high. Cabo Austin is the N extremity of the island, and Cabo Deceit, 6 miles S, is the S extremity of the island. Rocas Deceit, a group of islets and rocks, lies close off Cabo Deceit. A detached group of pinnacle rocks, 9 to 12m high, lies 2 miles further SE.

Caleta Wilfredo, on the E side of the island 2.5 miles NNW of Cabo Deceit, affords anchorage to small vessels in 34m, sand and mud.

Larger vessels can anchor outside the cove taking care to avoid the numerous patches of kelp close offshore.

Paso Mar del Sur separates Isla Deceit from Isla Herschel, 1 mile W. It is encumbered with a group of barren islets.

Isla Barnevelt (55°50'S., 66°48'W.) lies 8.5 miles E of Isla Deceit. It is nearly 1 mile long and rises to a height of 57m.

Detached islets lie 0.5 mile N and 2.5 miles W of the main island. There are numerous rocks around the islet.

9.29 Isla Hornos (55°57'S., 67°17'W.), about 3.5 miles long N to S, lies 2 miles S of Isla Herschel.

Cabo de Hornos (Cape Horn) (55°59'S., 67°16'W.) is the S extremity of Isla Hornos. It is 425m high, and presents a remarkable appearance when seen close-to, showing high black cliffs to the S, but is not so striking when seen from a distance.

Barranco Cloven is the SW extremity of the island, 2 miles NW of the cape; it ends in two summits resembling towers rather than horns.

There are two rocks, above-water, 0.2 mile off Barranco Cloven, and another rock about 0.8 mile SW of the same point. There are also small rocks above-water off the SE extremity of Isla Hornos.

Anchorage can be taken in 20m, sand, 0.3 mile from the NE side of Isla Hornos, 1.5 miles NW of the E extremity of the island.

Boarding places for Chilean pilots are established about 1.5 miles NE and 1.5 miles S of Isla Hornos.

A light is shown from a tower 4m in height, situated on Cabo de Hornos.

A Chilean naval observation station established on the E spur of Isla Hornos; passing vessels are requested to pass details of nationality, port of destination, speed, etc., on VHF channel 16. The station, comprising two aluminum roofed huts and a radio mast, is conspicuous.

Roca Bascunan and Roca Robinson, marked by breakers, lie 1.5 miles W and 2 miles WNW of Cabo de Hornos respectively.

9.30 Isla Hermite (55°51'S., 67°40'W.), the largest island of the group, lies with Cabo Spencer, its S extremity, 12.5 miles NW of Cabo de Hornos. Isla Hermite is 12 miles long in an E to W direction.

Bahia San Francisco is entered between Cabo de Hornos and Cabo Spencer. Isla Hall lies nearly in its center. The bay should not be entered without local knowledge.

Caleta San Martin is entered between two points about 2.5 miles N of Cabo Seal, the SE extremity of Isla Hermite; Isla Chanticleer lies 1.5 miles E of the S entrance point.

In the direction of Isla Chanticleer there are no known submerged dangers except for some rocks, awash, which extend 0.2 mile SE from the islet; otherwise the cove is of easy access.

Vessels can anchor in 29m, sand, in the middle of the cove, 0.3 mile from its head.

This anchorage is safe with good holding ground, although the squalls during W winds blow from all directions and are severe. The shores are steep and fringed by kelp.

9.31 Isla Jerdan (55°50'S., 67°28'W.), close off the NE end of Isla Hermite, is separated from Isla Herschel, to the E, by a passage 1.75 miles wide.

A rock, awash and marked by breakers, lies in the middle of this passage. Rocks, marked by kelp, extend 0.4 mile W from the NW extremity of Isla Herschel.

Puerto Maxwell (55°49'S., 67°30'W.), a good harbor with a secure anchorage free from squalls, lies 12 miles E of Cabo West. It is formed by the NE end of Isla Hermite and Islas Jerdan, Saddle, and Maxwell.

Anchorage.—The best anchorage is in 29m, sand, in the middle of the harbor, with the E extremity of Isla Maxwell bearing 348°, distant about 0.3 mile.

The best entrance to the anchorage is through Paso Norte, between Islas Maxwell and Saddle. Local knowledge is advisable.

9.32 Isla Maxwell (55°49'S., 67°31'W.), on the W side of Paso Norte, is crowned by an isolated rock 160m high. Isla Saddle, 0.6 mile E of Isla Maxwell, is 59m high.

A rock with a depth of 0.9m lies 0.35 mile E of the NE extremity of Isla Maxwell. A rock, awash, lies 0.6 mile ENE of this rock, with another rock, with a depth of 0.9m, lying about 0.3 mile further NE.

Another rock, with a depth of 5.8m, lies near the middle of Paso Norte, 0.3 mile E of the E extremity of Isla Maxwell. Other dangers are noted in the pass.

Caleta Martial (55°50'S., 67°17'W.) is situated on the NE side of Isla Herschel, 6.75 miles W of Cabo Austin, the N extremity of Isla Deceit.

Anchorage.—There is good anchorage in the middle of the cove in 11m, sand and mud, with good holding ground, sheltered from all directions except from E. The N and S shores are fringed with masses of kelp.

For islands and passages W, consult Pub. 125, Sailing Directions (Enroute) West Coast of South America.